

General Physics

INVESTIGATING THE EFFECTIVENESS OF THE PROFESSIONAL DEVELOPMENT OF HIGH SCHOOL TEACHERS ON THEIR LEARNING AND THEIR STUDENTS' LEARNING AND APPLYING THE RESULTS TO MODIFY INNOVATIVE PHYSICS CURRICULUM

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This research project describes the effectiveness of the UNI Physics Institute, a professional development program in physics for high school teachers, on the teachers' learning as well as their students' learning. In addition, it uses the results of the evaluation to modify physics curriculum so it is more effective. We implemented various instruments to collect data on the effectiveness the Institute, including the teachers' reflective journals, pretest and posttest conceptual assessment data, informal interactions with the teachers, and formal evaluations from the teachers. The Institute allowed teachers to earn enough credit hours in physics to obtain their physics teaching endorsements. From the data, we see that both the teachers and their students improved their conceptual assessment scores. Looking at the results of the conceptual assessment on Newton's laws reveals student difficulty in understanding Newton's Third Law. This led to the modification of a PRISMS learning cycle on Newton's Third Law.